Llagas Creek
Flood Control Project

Project Management Plan

Prepared by the
San Francisco District, U.S. Army Corps of Engineers

With Assistance from the
Santa Clara Valley Water District
San Jose, California

Initially Approved: November 2000

Revision: August 2003

Concurrence Page

San Francisco District, U.S. Army Corps of Engineers

We, the undersigned, concur with the revised Project Management Plan, dated September 2001, for the Llagas Creek Flood Control Project, San Jose, California. We understand that this is a "living " management document that will be updated as needed through the process stated within.

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Table of Contents

Page

Section 1 - Introduction 5
    Project Description 5
    Project Authorization 5
    Project Management Plan 7

Section 2 - Management of Project 8
    Project Team 8
    Project Review Boards 9
    Executive Committee 10

Section 3 - Technical Requirements 11

Section 4 - Code of Accounts 12
    Resource Scheduling 14
    Network Analysis System (NAS) Scheduling 14
    Risk Management Plan 14
    Change Management Plan 14
    Communications Plan 15

Section 5 - Work Tasks and Responsibilities 16
    Engineering and Design 16
        Hydraulic Studies 16
        Civil Design 16
        Geotechnical Studies 16
    Cost Estimating 17
    Economic Analysis 17
    Plan Formulation 17
    Environmental Studies 18
        Environmental Impact Statement/Report 18
        Fish and Wildlife Studies 19
        Cultural Resources 19
    Real Estate Analysis 19
    Value Engineering 20
    Contracting 21
    Management Documents 21

Section 6 - Quality Control/Quality Assurance 22

Section 7 - Project Cost Estimate 23

Section 8 - Milestone and Project Schedule 25

Section 9 - Description of Work Elements 27

Table of Contents (Continued)

	Page
Appendices	
Appendix I - Roster of Project Delivery Team	40
Appendix II - Standard Operating Procedure for Quality Control of District Products	41
Appendix III - Independent Technical Review Team Members - Statement of Qualifications	43
Appendix IV - QC/QA Review - Documentation Requirements	44
Appendix III - QC/QA Certification	45
List of Figures	
Figure 1 - Flood Control Project Area	6
Figure 2 - Project Schedule	26
List of Tables	
Table 1 - Minimum Civil Works Project Milestones and Milestone Uses	13
Table 2 - Task/Resource Cost Breakdown by Fiscal Year	24

Section 1 - Introduction

Congress has authorized the Corps of Engineers (1999) to assume the completion of the Llagas Creek Flood Control Project from the Natural Resources Conservation Service (NRCS). The NRCS (formerly the Soil Conservation Service) initiated project construction in 1973 and has, to date, completed about half of the originally authorized project. Due to an anticipated funding reduction (less than $1.0 million per fiscal year for the remainder of this project), however, the NRCS does not plan to complete this work until at least 2010. The project Sponsor, Santa Clara Valley Water District (SCVWD), was successful in requesting Congress to transfer the project's authorization to the COE in order to complete the work in a timely manner.

Project Description

The Flood Control Project is located in Southern Santa Clara County, California, in the vicinity of the communities of Morgan Hill, San Martin and Gilroy. The Llagas Creek is a conduit to the Pajaro River and the Monterey Bay for a 104-square-mile watershed around Morgan Hill and Gilroy. The creek system is especially prone to flooding, having recorded floods in 1937, 1955, 1962, 1963, 1969, 1982, 1997, and in 1998. Primarily, the project consists of channel improvements and a diversion channel providing a 100-year level of protection to urban areas and between 5- to 10-year protection to agricultural areas.

The Llagas Creek Flood Control Project is separated into 14 reaches, as illustrated in Figure 1. Of these, the NRCS has completed Reaches 1, 2, 3, 9, 10, 11, 12 and 13. Preliminary designs for the remaining Reaches 4, 5, 6, 7, 8, and 14 were developed by NRCS (Watershed Work Plan, 1967), however, changes in the environmental habitat within these reaches, overall watershed use, and Federal and State law necessitates a re-evaluation of these designs in order to prepare acceptable flood control features.

Project Authorization

The Department of Agriculture (DOA) was authorized to construct the Project in 1969 pursuant to the Watershed Protection and Flood Prevention Act, Public Law 83-566. To date, the Natural Resource Conservation Service (NRCS) has completed about half of the authorized project. Congress, in the House Report to the 1998 Energy and Water Development Appropriations Act (HR 105-190, July 1997), urged the Corps of Engineers to develop plans and specifications for the authorized project, in anticipation of the Corps assuming the construction of the remaining project elements. The Water Resources and Development Act (WRDA) of 1999 (Public Law 106-53, Section 501(a)), authorized the Corps of Engineers to complete the remaining reaches of the project "substantially in accordance with the NRCS watershed plan" and in accordance with the requirements of local cooperation as specified in Section 4 of the Watershed Protection and Flood Prevention Act, Act of August 4, 1954, Chapter 656, 68 Stat. 688, codified as amended at 16 USC I 1994, at a total cost of $45,000, with an estimated Federal cost share of $21,800,000 and an estimated non-Federal cost share of $23,200,000.

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(Insert Project Site plan)

Project Sponsor

The non-Federal sponsor for the Llagas Creek Flood Control project is the Santa Clara Valley Water District (SCVWD), San Jose, CA. As was described in the 1954 Watershed Protection and Flood Prevention Act, the Corps of Engineers shall prepare all designs for and construct the Llagas Creek project at entirely Federal expense. SCVWD will be required to provide all necessary lands, easements, rights-of-way, suitable borrow and dredged or excavated material disposal areas, and perform all relocations that are determined necessary for the construction, operation, and maintenance of the project.

According to Section 221 of the Flood Control Act of 1970 (Public Law 91-611), and Section 103 of the Water Resources Development Act of 1986 (Public Law 99-662), the Government may not commence construction of any water resources project until the non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project. A Memorandum of Agreement (MOA) has been prepared and will be executed prior to advertisement of the first construction contract.

Project Management Plan

This Project Management Plan (PMP) describes the GRR and presents the scopes of work, schedules, and budgets for the technical support. The PMP reduces uncertainties by providing clearly defined roles and task descriptions and forms the basis for managing and monitoring the project. This PMP is not intended to be inclusive, nor is it intended to anticipate or include all possible changes to the project during execution. It is, however, a dynamic "living" document that requires periodic update. Revisions to the PMP will reflect significant changes to the schedule and/or scope of the study. The PMP will also be revised at the start of each fiscal year to incorporate the scopes of work to be accomplished by the various technical elements during that FY, as well as the schedules for deliverables and budgets for the technical elements (See Section 4, Change Management Plan). The Project Manager will successfully negotiate the schedule and budgets with the various Section Chiefs prior to finalizing and issuing a revision to the PMP.

Section 2 - Management of the Project

The project will be managed according to the Corps' Project Management Business Process (PMBP). Within the South Pacific Division, each individual District follows this standardized basic management strategy which was created to increase execution capacity and flexibility, to create opportunities for cost reductions, and to improve communications between the District, the Division office, and our customers. It consists of a Project Team approach with upward review by the Corps Project Review Boards (PRBs) and over view by the Project's Executive Committee. The following is a description of the roles and responsibilities each.

Project Team

This is a team process, managed by the Project Manager, and supported by the project's team members from the technical disciplines (identified in Appendix I), their immediate supervisors, and the customer. Basic roles and responsibilities for each are as follows:

Project Manager

a. Primary point of contact with the customer.
b. Manage overall project execution, including funds, data, commitments, schedule, cost, and quality.
c. Develop and manage all work using a Project Management Plan (PMP), Scope of Services, the Programs and Project Management Information System (PROMIS), Network Analyses System (NAS), and the Corps of Engineers Financial Management System (CEFMS).
d. Ensure Quality Control (QC) plans are developed and incorporated into the Project Management Plan.
e. Provide project schedule, cost status, and issues to the PRB, with corrective action plans for potential slippage or cost over-runs.
f. Lead the project team.
g. Be responsible/accountable for assigned product(s).

Team Members

a. Provide technical expertise.
   - Provide investigations, analyses, reports, and other technical products.
   - Perform Quality Assurance (QA) or Quality Control (QC); provide support for independent reviews and other technical assistance.
   - Provide scope and effort input for acquisition/management of out-sourced products (e.g., Architect-Engineer (AE) services, etc.).
   - Provide technical interface and assistance to execute technical products.

b. Perform project team member duties.
   - Participate in project team meetings.
     Facilitate team development, communicate, and resolve issues

Section Chiefs

a. Support PMs with resources, data, and commitments.
  - Assign project technical team members.
  - Obtain needed contractor resources.
  - Deliver products on time and within budget.

b. Manage technical resources.
  - Develop professional abilities of work force.
  - Provide oversight of technical work.
  - Assess workload and funding.
  - Balance in-house and contracting needs.

c. Ensure Quality Assurance (QA) and Quality Control (QC) of work is resourced.
  - Assure independent technical review.
  - Establish technical criteria and standards.
  - Assure QA and QC processes are adequate.
  - Determine method of technical review.

Customer/Project Sponsor

a. Participate as an equal and active member of the project team.
b. Provide necessary documentation if requested by the project team.
c. Participate in project team meetings.
d. Review and approve project schedules and cost estimates.
e. Review change orders which could impact agreed-to completion dates.

Project Review Boards

The Project Review Board (PRB) is established both within the District and the Division in order to review and evaluate the progress of all studies, projects, and programs being performed. The San Francisco District is chaired by the District Commander and includes representatives from the technical Divisions, Program Management and Project Management. The group deals with District execution of programs and projects in the fiscal year. More specifically, the District PRB:

a. Hears program execution status and projected performance for the fiscal year.
b. Reviews the status of projects.
c. Makes decisions on project issues based on recommendations from Project Managers.
d. Makes decisions on programmatic issues based on recommendations from Program Managers.
e. Makes decisions on workload-leveling based on recommendations from Organizations Chiefs.
f. Recommends issues for the Division PRB.
g. Enacts decisions made by the Division PRB.

The Division PRB is chaired by the South Pacific Division (SPD) Commander and includes representatives from the SPD technical Divisions and Program Management, as well as the District Engineers from all the Districts within SPD. The group deals with Division execution of programs and projects in the fiscal year. More specifically, the Division PRB:

a. Hears Division and Districts' program execution status and projected performance for the fiscal year.
b. Makes decisions on high visibility project issues based on recommendations from District Engineers.
c. Makes decisions on programmatic issues based on recommendations from Division Program Managers.

The Division also supports the Resources Management Board (RMB), which includes the Director of Program Management (DPM) and the Resources Manager (RM) from each District, the Division RM, and the Senior Executive Service (SES) members from the Division. The group guides the Division and its Districts by making strategic decisions affecting execution beyond the current fiscal year. Specifically, the RMB:

a. Appoints and manages the PMBP technical committee.
b. Reviews and enacts recommendations from the PMBP technical committee.
c. Makes decisions on recruitment/contracting based on fiscal year workload projections from Division Program Managers.
d. Makes decisions on future workload allocations by examining FTE/Contracting usage based on reviewing out-year workload projections.

Executive Committee

The Executive Committee will include the San Francisco District Engineer (or his designee), the Chief of the District's Programs and Project Management Division (PPMD), the Chief of the District's Engineering and Technical Services Division (ETS), and a representative of the Santa Clara Valley Water District (SCVWD). The District Engineer and his counterpart from the SCVWD will co-chair the committee. The Executive Committee will manage the overall project by:

a. Maintaining a working knowledge of the project.
b. Assisting in resolving emergency policy issues.
c. Ensuring that evolving study results and policies are consistent and coordinated.
d. Directing the Project Team.
e. Ratifying decisions made by the Project Team.

The Executive Committee will participate in Issue Resolution Conferences (IRCs). The Committee is also responsible for resolving any disputes that may arise during the project. The Committee will agree on the solutions and project direction, which may include termination.

Section 3 - Technical Requirements

The work to be performed consists of the Design and Construction of the Flood Control Project. This will include preparation of a Planning Engineering and Design (PED) Cooperative Agreement, collection of all necessary field data, preparation of a joint Environmental Impact Statement/Report (EIS/R), the preparation of all design elements, prepare Plans and Specifications (P&S), construction contract(s) award(s), project and construction management, and coordination with local, State, and Federal agencies. The scope of tasks in terms of content and level of detail are as defined and required by the following documents:

ER 5-1-11	**Program and Project Management** Department of the Army Regulation for the overall management of civil works projects.
ER 1110-2-1150	**Engineering and Design for Civil Works Projects**
ER 1165-2-131	**Local Cooperation Agreement for New Starts** Department of the Army regulation for developing and processing Project Cooperation Agreements
ER 405-1-12	**Real Estate Handbook - Local Cooperation** Department of the Army regulation establishing guidelines for real estate activities for Project Cooperation Agreements
ER 220-2-2	**Procedures for Implementing NEPA** Department of Army regulation on environmental quality
CESPD Reg 1110-1-8	**South Pacific Division - Quality Management Plan** Division-wide QMP, produced by the Directorate of Engineering and Technical Services
CESPN-OM, 1110-1-12	**San Francisco District - Quality Management Plan** QMP for activities performed by Planning, Engineering, Construction, Operations, Real Estate, and PPMD
EC 1110-2-263	**Civil Works Construction Cost Engineering** Department of Army circular establishing accounting standards for preparing cost estimates for civil projects
EC 1110-2-538	**Civil Works Project Cost Estimating - Code of Accounts** Department of Army circular establishing accounting standards for preparing cost estimates for civil projects
CESPN-OM 1110-2-1	**San Francisco District - BCOE Review** of Plans & Specifications

Section 4 - Code of Accounts

The U.S. Army Corps of Engineers maintains a common project database and a standardized accounting system to support both project-specific needs and regional workload evaluations. The database and accounting tools are accessible by the users' desktop computer through the Corpsnet and web browser, and standard reports, menus, procedures, and functions to extract and format report data are available on a web sever.

The Programs and Project Management Information System (PROMIS) is the Corps' standard automated information system designed and developed to support the business process of Programs and Project Management at the District level. The Corps' Headquarters in Washington, D.C., (HQUSACE) requires that all Civil Works, Military, and HTRW projects be entered into the database. Individual projects performed by the District are managed with PROMIS, as the database provides the current status of project schedule and costs and resource allocation. Regional and national access to this same database provides the status of work-load distribution.

The Corps of Engineers Financial Management System (CEFMS) is the Corps' standardized accounting system. This system is used for budget allocations, funding the functional elements, tracking expenditures, and contract payments.

The Project Manager is responsible for entering project level information into the corporate database and is also responsible for subsequent maintenance of the project data within PROMIS. The Project Manager must keep the following project level information current and accurate:

a. Project Information (Customer, Location, Detail, Authority)
b. Project Team Members
c. Project Comments (General, Synopsis, Issues)
d. CEFMS Links

The Project Manager is responsible for the development of the initial Work Breakdown Structure (WBS), milestones, and other task specific data. Each project will have the standard Minimum WBS Template (Table 1) created to show the links to the corresponding milestone codes, the milestone names, and the milestone types, and what reporting mechanisms use the milestones. The Project Manager and the Project Team Members, in conjunction with the customer, identify and commit to these milestones.

Project Team members are responsible for assisting the Project Manager in developing time and cost estimates necessary to perform the work defined by the WBS. Section Chiefs assist the Project Team members in detailing time and cost estimates for the project. When necessary, the Project Manager and the Project Team members will expand the initial, minimum WBS to better capture organizational activities, and/or scheduled delivery dates.

Table 1

Minimum Civil Works Project Milestones and Milestone Uses

Civil Milestone Code	Milestone Name	CMR	PPDS	PES	GI DBASE	CAP DBASE	SPD
040	Initiation of Recon Phase				X	X	X
050	District Submits Recon Report	X	X		X	X	X
052	HQ Approves Recon Report		X		X		X
060	District and Sponsor Execute FCSA		X		X		X
100	Initiate Feasibility Study		X	X	X	X	X
101	Feasibility Study Public Workshop						X
102	Feasibility Study Conference #1						X
103	Feasibility Study Conference #2						X
104	Submit Draft Feasibility Report						X
130	Feasibility Review Conference				X		X
140	Project Guidance Memorandum				X		X
145	Public Review of Draft Report				X		X
165	Feasibility Report w/ NEPA		X		X	X	X
170	MSC Commander's Public Notice	X	X		X		X
290	PED Agreement Executed		X	X			X
310	Filing of Final EIS/EA			X			X
330	Chief's Report to ASA(CW)		X				X
350	President Signs Authorization		X				X
500	P&S Initiated					X	X
590	P&S Approved	X	X			X	X
690	MOA Executed	X	X	X			X
860	BCOE Review of P&S	X	X	X			X
960	Construction Contract Awarded	X	X	X		X	X
970	Contract Physically Complete			X			X
990	Project Physically Complete		X			X	X
999	Project Fiscally Complete						X

Acronym Definitions:

CMR - Command Management Review
PPDS - Programs and Project Delivery System
PES - Project Executive Summary
GI Database - General Investigation Database
CAP Database - Continuing Authorities Program Database
SPD - South Pacific Division
MSC - Major Subordinate Command (SPD)
NEPA - National Environmental Policy Act
ASA(CW) – Assistant Secretary of the Army for Civil Works
PED – Preconstruction Engineering and Design
P&S – Plans and Specifications
MOA – Memorandum of Agreement
BCOE – Biddability, Constructability, Operability, and Environmental Review

Resource Scheduling

The Project Manager is responsible for the development of the initial resource estimates and distributions, and is responsible for subsequent maintenance of the Project in PROMIS. Team Members are responsible for assisting the Project Manager in developing time and cost estimates necessary to perform the work defined by the WBS. Section Chiefs will assist the Project Team members in detailing time and cost estimates for the project. Section Chiefs and Project Team members have the additional responsibility of identifying conflicts with other projects and balancing the workload distributions for the organization. The time and cost estimates generated by the project management team will assist the team in the selection of additional detailed tasks beyond the existing tasks in the Standard Minimum WBS Templates (Table 1).

Network Analysis System (NAS) Scheduling

The Project Manager is responsible for the development of the initial schedule and subsequent maintenance of the schedule within the NAS. Development and maintenance of the schedule not only requires development of task duration, but also the identification of task dependencies. Section Chiefs will assist the Project Team members in identifying these predecessor-successor relationships as it affects the organization's function in the project.

Risk Management Plan

Risk Management is a systematic process of identifying, analyzing, and responding to risk for the entire life of the project. A risk analysis is performed for four (4) categories of project risk: scope, quality, schedule, and cost, and the level of detail of the risk analysis and Risk Management Plan is based on the complexity of the project. In the case of the Llagas Creek Flood Control project, it will be the responsibility of the Project Delivery Team (PDT) in coordination with the two non-Federal sponsors to keep track of identified risks, identify new ones, determine if agreed upon responses to risks have been executed, and evaluate the effectiveness of risk response to reduce identified risks. This will be accomplished at PDT meetings where they will consider potential risks that could be associated with accomplishing the project's activities, schedule, and fiscal resources, and evaluate and analyze each risk identified and determine the appropriate rating and severity (should the risk event occur) for each risk.

Change Management Plan

The purpose of a Change Management Plan is to define and manage the project's baseline performance measurement thresholds for changes in scope, schedule, and cost to determine if actual project performance has exceeded these thresholds. Project change can be:

Schedule Change - Minor changes to a project's schedule occur frequently, and many can be absorbed by adjusting either the sequence or duration of tasks. Threshold = critical milestone slip of more that 15% (e.g., 2 month slip within a FY).

Scope Change - If the change is determined to impact one or more of the project's technical elements, all of which are represented as members of the PDT, these members will be consulted by the Project Manager to evaluate how that change can be best incorporated with the least impact. Threshold = depends on the resultant cost impact.

Cost Change - The most significant project change is a change in the project's cost. Most projects are now cost-shared between the Government and the sponsor and any change in their contribution can have a significant impact on the sponsor's ability to provide that contribution. The Project Manager must constantly monitor schedule and scope changes and assess how these changes impact on the project's cost. If these changes indicate that a change in the project's cost is necessary, the sponsor must immediately be consulted and agree to the change in project cost before that change can be implemented. Threshold = cost increase of more than 10% in a given FY.

The PMP will be revised (minimally) at the beginning of each FY and incorporate changes in the work planned for that FY as a result of changes in the schedule, scope and/or cost addressed during the previous FY. If significant change occurs during a FY (based on threshold values), a revision of the PMP will be necessary.

Communications Plan

This plan is necessary in order to establish an internal and external communications strategy and to determine the information needs of the Project Delivery Team (PDT) members and stakeholders – who needs what information, when they will need it, how it will be given to them, and by whom.

The PDT and the non-Federal Sponsor will be tasked to identify the project Stakeholders by determining who will be affected by and who can affect the project. Since there is a long history of environmental opposition against any channel deepening for this project, the State and Federal agencies most opposed to the project in the past would be obvious choices as Stakeholders. Peer review of numerical simulations of changes in water quality will also be critical in successfully presenting these findings and obtaining the support for the project.

Problem identification will be used to identify problems, concerns and/or issues related to the project. Issues to be considered as how they affect the project include, but are not limited to:

Technical
Safety and Health
Environmental
Economic
Political
Cultural
Institutional
Legal
Others

Once the expectations, problems, concerns and issues are identified, it will be important to determine how to get to these issues; either by talking with the customer, reviewing existing documentation, or communicating with the Agencies and environmental interest groups that express opposition to the project.

Section 5 - Work Tasks and Responsibilities

The following is a brief description of the major tasks that are required to accomplish the design of the Llagas Creek Flood Control Project and the responsibilities to accomplish these tasks. At the beginning of each task, the Sponsor will have the opportunity to review the scope of work to be performed and, at the conclusion of each task may also review and approve of the results of the work before it is considered complete.

Engineering and Design

Hydraulic Studies

The Hydrology update has been certified by the COE's Water Resources Section in June 2003. Hydraulic designs of the project features are complete and the final Report for the Hydrology, Sediment, and Hydraulic investigations is being prepared. Channel dimensions, design water-surface profiles, and top-of-levee elevations were provided to Civil Design for the alignment and cut/fill estimates. If, during final design, any changes to the project features needs to be made, impact on the hydraulic characteristics will be evaluated to ensure the successful passage of the design flows.

Civil Design

Preliminary channel feature designs have been prepared for each reach and have incorporated the finding of the hydraulic studies and available foundation information. Drawings which display the plan, profile, and typical cross sections for each project reach have been prepared, and quantities for required earthwork developed based on those designs. These designs have been used to generate preliminary construction cost estimates for the project. More detailed work will be required during the preparation of final designs to incorporate utility relocation, culvert installation, and bridge reconstruction. In addition to the alignments, the final designs will also include plans with details of the storm drains and appurtenances, access roads and ramps, etc.

Geotechnical Studies

Soil borings along the proposed channel alignment are important in finalizing the design of these features, and the number and location of the holes are identified below:

Reach	From STA	To STA	Length	# Borings
7	96+40	11+00	8,540	12
6	714+70	522+00	19,270	28
4	498+15	379+00	11,915	17
5	0+00	522+00	5,220	7
8	144+00	206+65	6,265	9
14	0+00	121+50	12,150	17

It is anticipated that Federal allocations will be limited during FY04 and will necessitate two separate contract awards (and Congressional approval of the necessary reprogramming action) in order to perform the above investigations. This sampling and testing work will be contracted and will be supervised by Geotechnical staff. Results of the geotechnical investigations will be incorporated into the Civil designs for each reach, and will be documented as an appendix to the GRR.

Cost Estimating

A preliminary construction cost estimate has been prepared for each project reach by the Cost Engineering Section. This cost estimate reflects recent COE experience in constructing similar flood control projects, and includes an estimate of the project contingencies, escalation of the construction cost to midpoint of construction, construction management costs, and interest during construction. The assumptions made and the unit costs used in this preliminary cost estimate will be reviewed, however, and any changes incorporated. It is envisioned that, due to the high construction cost estimate (45% higher that the WRDA 99 Authorized construction cost), joined with an similarly-inflated cost estimate to acquire the necessary real estate for this construction, a Post-Authorization Change (PAC) Report will be prepared, requesting Congress to increase the project's Total Project Cost (TPC).

Economic Analysis

The Sacramento District has been requested to assist in the preparation of the Economic Analysis. The affected property inventory has been accumulated, based on the 500-year flood event. Remaining tasks are to prepare damage estimates for flood levels less than the 500-year event (100-, 50-, and 10-year event), and determine the benefits in providing flood protection from the project. The following flood damage benefit categories will be determined; flood damage reduction; structural damage and loss of contents for residences and business; agricultural losses; losses of non-recoverable businesses; traffic delays; and savings from needed flood insurance and emergency aid. Other potential benefits, such as location and employee benefits, associated with incidental purposes will also be examined. To assure that the project remains economically viable through the design, benefits for each alternative will be updated once every 3 years. An economic appendix will be provided for inclusion in the GRR and will include the development of benefits for each alternative.

Plan Formulation

Plan Formulation will be tasked to organize and hold an In-Progress Review (IPR) Conference with representatives from the COE's Division and Headquarters, where the preliminary hydraulic and civil designs, the project economics, and the Total Project Cost (TPC) estimate will be presented. It is the intent of this conference to receive concurrence with the approach being taken, the assumptions made with regard to project authorization and cost sharing requirements, and to lay the foundation for a Post-Authorization Change (PAC) report which will request Congress to increase the TPC of the project.

A public workshop will also be arranged (October 2003) to coincide with the completion of the preliminary project designs and the preparation of a preliminary construction cost estimate. There have been two previous workshops (November 2001 and October 2002) in which the affected public was informed of the studies progress, preliminary channel alignment, and projected project schedule. Each workshop has given the public an opportunity to comment on the project and written responses to those comments have been made public. Plan Formulation will work with the Santa Clara Valley Water District to organize and facilitate this workshop.

Plan Formulation will also be tasked with the preparation of the General Reevaluation Report (GRR), which will act as the Decision Document necessary for Congress to initiate funding for the project's construction. The work required to prepare the draft GRR will include assembling pertinent data, and writing, editing, typing, drafting, reviewing, revising, reproducing, and distributing the draft GRR and related technical documents for review. Finalizing these documents will include answering comments, attending review meetings, and revising the report based on the results of the QC/QA review and public comment process. Tasks also include all work items necessary to support the report approval at the South Pacific Division and HQUSACE.

Environmental Studies

Environmental Impact Statement/Report

Tetra Tech, Inc., has been contracted to prepare all the environmental documentation for the Llagas Creek Flood Control project (DACW07-98-D-0004). A supplement to the 1982 EIS/R will be prepared and circulated to the appropriate State and Federal agencies and interested organizations and individuals. The EIS/R will be a joint document whereby, the Corps will be responsible for satisfying Federal requirements, and SCVWD will be responsible for tasks needed to satisfy State regulations. The 1st Administrative draft EIS/R was submitted in June 2002, which established the Report's format, the Table of Contents, gave the Project Description, and identified areas of study where data was needed. Currently, preparations are underway to submit the 2nd Admin draft EIS/R (October 2003), which will address topics such as the tree surveys, the traffic study, and the soil investigations, and begin to address the potential impacts the project may pose on the environment. A draft EIS/R is scheduled to be released for public review in February 2004. Comments received on the draft EIS/R will be assessed, and revisions will be made in accordance with Federal and State law. Mitigation features for fish and wildlife and other affected resources will be formulated and a monitoring plan developed to record the success of the mitigation.

Requirements of the Federal Endangered Species Act and the California Endangered Species Act will be completed during this FY. A Biological Assessment (BA) and formal consultation with the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and the California Department of Fish and Game (CDFG) will be initiated for State- and Federally-listed species that may be affected by the proposed work.

Fish and Wildlife Studies

FWS will continue to prepare the Coordination Act Report (CAR). A Habitat Evaluation Procedure (HEP) has been performed and an "Author's Draft Report" was released, however, significant concern was raised by some the mitigation requirements, that further discussions with FWS are planned. This task includes studies by the FWS in support of the environmental studies required by the Fish and Wildlife Coordination Act.

There are several listed species that are present in the project area, and biological surveys have already been completed which were necessary to identify the extent of their habitat. A Biological Assessment will be prepared and submitted to the National Marine Fisheries Service (NMFS) for listed species under their jurisdiction. In accordance with Section 7 of the Endangered Species Act, NMFS will submit to the Corps a Biological Opinion on the project.

Cultural Resources

The cultural resources studies by the Corps will determine the impacts of the selected plans on any historical, architectural, and archeological resource in the construction area. Many of these areas are expected to be affected and have already been surveyed in accordance with the State Historic Preservation Act of 1966. A report to document the survey results, outline significant cultural resources, and describe impacts of each plan on cultural resources will be prepared and coordinated with the State Historic Preservation Officer, the National Park Service, and the Advisory Council on Historic Preservation. Any sites discovered during the survey will be evaluated for the National Register of Historic Places. The cultural resources report will be included in the SEIS/R.

Real Estate Analysis

The Corps Real Estate Division will work with the Santa Clara Valley Water District to ensure that sufficient lands are obtained and made available for the ultimate construction of the recommended plan. Appraisals of actual land values will be made, as well as the costs determined of any necessary relocations, to determine the amount of allowable Sponsor credit. In this regard, the Real Estate Division will:

> Real Estate Plan: The Corps shall prepare a Real Estate Plan (REP) which is an overall plan describing the minimum real estate requirements for the project requirements (see ER 405-1-12, Chapter 12.). The REP shall include an Institutional Real Estate financial capability analysis.
>
> Gross Appraisal/Report: The Corps shall prepare a detailed estimate of all real estate costs associated with acquisition of the Project's Real property requirements. (See ER 405-1-12, Chapter 12, Section III - Planning, Section VI - Appraisals, paragraph 12-28b and Real Estate Policy Guidance Letter Number 3, Guidance for Preparation of the Gross Appraisal, May 1998.)

Preliminary Real Estate Acquisition Maps: The Corps shall determine the tract ownership and acreage, and prepare the Real Estate preliminary and final take line drawings. The Corps shall extract all lands previously cost shared in previously cost shared Federal project.

Attorney's Takings Analysis: The Real Estate Division Attorney will prepare Taking Analysis as necessary to determine if there is a real estate taking. This determination is made upon receipt of SPN Engineering H&H information such as frequency, depth, and duration.

Preliminary Attorney's Opinion of Compensability: Investigation and attorney's determination if existing land rights acquired are sufficient for proposed Federal project, and if owners of project affected facilities or utilities have a vested interest and compensable interest in the property, with regard to the real estate taking.

Rights of Entry: Coordination of requests and work with the sponsor to obtain rights of entry for the survey, cultural resources, HTRW, and geotechnical exploration work required.

Preparation of Real Estate MCACES: Real Estate Division, Planning & Control Branch will prepare a Real Estate MCACES based upon the land valuation determined by the Appraisal Branch and the projected administrative costs for both the Government and the non-Federal sponsor for the acquisition of the necessary lands, easements, and rights of way. This RE MCACES is incorporated into the Project MCACES prepared by SPN Engineering Branch, Cost Estimating Section.

Value Engineering

EC 1110-1-114, Value Management/Value Engineering, dated 28 February 2003, specifies the statutory requirement to conduct Value Engineering (VE) studies on all Civil Works projects authorized at a cost greater that $10 million, and that at least one VE study is to be performed during the feasibility phase of study. The aim of a VE study during the plan formulation phase of the study is to ensure that the widest range of measures are considered and that alternatives formulated from those measures are not limited to those that first came to mind at the initiation of the study. Putting this step into the process ensures consideration of the fullest range of measures and alternatives, improving our formulation process and leading to more defensible recommendations.

A VE study will, therefore, be performed on the preliminary designs for all reaches of the Llagas Creek project. At the conclusion of this study, an In Progress Review Conference will be scheduled with COE higher headquarters to present the finding of the VE study and to recommend the plans for the project.

Contracting

The Corps' Contracting Office will assign a Contracting Specialist to be part of the Project Team responsible for developing a procurement strategy for the contracting needs of the project. This will include obtaining the qualified services of A&E firms to perform necessary field investigations, specifically the geotechnical investigations. Federally-mandated considerations will be made to promote small businesses and 8a (disadvantaged, minority-owned) firms, as well as assisting the Project Manager in determining whether the work can best done under an existing IDIQ (negotiated Task Order) Services contract or if it should be offered to the industry by open solicitation or sole source.

Management Documents

Responsibility of the overall management of the project lies with the Project Manager in cooperation with the Project Engineer, the various Technical Element Section and Branch Chiefs, as well as the non-Federal sponsor. Project management will ensure that all required tasks and coordination are performed. This task includes such duties as assigning and negotiating study tasks to technical elements, scheduling the performance of the work, coordinating between technical elements, monitoring and modifying assigned work items as required, and reviewing results and reports provided by the technical support staff and technical correspondence. Budget preparation, correspondence, inter-organizational coordination, and point-of-contact responsibilities are also part of project management.

The Corps Project Manager is responsible for managing the overall project cost, schedule, present and future budget year submissions, updating the PMP, and coordination with the non-Federal sponsor. The Corps Project Engineer will assist the Project Manager by monitoring the day-to-day activities of the technical elements.

Section 6 - Quality Control/Quality Assurance

To ensure the overall quality of the all products generated by the project, a process of Quality Control (QC) and Quality Assurance (QA) will be followed for the Flood Control Project. This QC/QA process follows the requirements set forth by Corps Regulations (Appendix II) and is an important and necessary step in the performance of every project and study performed by the San Francisco District. The process is based on independent technical review of the documentation generated in-house by the project (QC), or an audit of the QC process for work performed by contract Architect &Engineer (A&E) support (QA), and this review is carried out based on the following guidelines:

a. Review of scope and customer requirements.
b. Verification of assumptions, methods, and procedures used in analysis.
c. Verification of appropriateness of data used, level of data obtained.
d. Review of adequacy of the level of detail and evaluation of results.
e. Review for consistency, accuracy and comprehensiveness.
f. Verification of compliance of the documents with existing policy, laws, engineering and scientific principles.
g. Verification of compliance of the documents with environmental laws.

Independent Technical Review Team

In accordance with CESPD-CM-P Memo, dtd 19 June 2001, Interdistrict Review of Decision Documents, other Corps Districts will be utilized for independent technical review of decision documents. In this regard, an Independent Technical Review (ITR) team will be formed of qualified representatives from one or several Districts, based on the various technical capabilities of the individuals and/or Districts identified (Appendix III). The team members will review the draft project documentation, make comments to the Project Team, and perform a back-check of the documents after the comments are addressed. A Quality Control Certificate will be issued once the review team is satisfied that all comments have been adequately addressed.

Value Engineering (VE)

Value Engineering (VE) is an organized effort directed at analyzing the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life-cycle cost consistent with required performance, reliability, quality, and safety. In accordance with EC-1110-1-114, Value Management/Value Engineering, dtd 28 February 2003 (based on the draft HQUSACE VE Regulation), a VE study shall be performed on all authorized projects with current working cost estimates exceeding $10 million, and that this study shall occur no later than at 35% completion of the design. This regulation further states that under no circumstances shall a contract for water resources project over $10 million be awarded prior to completion (including complete disposition of proposals) of a formal VE study. Results of the VE effort will be presented in the GRR.

Section 7 - Project Cost Estimate

The Corps of Engineers has assumed the authority to complete the Flood Control Project from the NRCS and, as such, has also assumed the same cost sharing between the Federal Agency (Corps) and non-Federal sponsor (SCVWD). All design costs for the project, therefore, will be borne entirely by the Federal Government. This includes evaluating the existing NRCS designs for the un-constructed reaches of the project; modifying those designs relative to changes in environmental conditions, Corps regulations, and/or policy; performing all necessary field investigations to support the design work; supplementing the EIS/R; preparing and negotiating the Project Cooperation Agreement with the sponsor; and preparing the Plans and Specifications for the first phase of construction.

The cost estimate and work breakdown structure for the design activities involved in the project is presented in the following Table 2. This table divides the costs into different categories as follows:

- **Work Breakdown Structure** (WBS) - activities, sub-activities, and work elements or tasks.

- **Tasks** - tasks, or work elements are organized through the WBS. Each task has a WBS code (e.g., ET-C). One or more resources are assigned to each task. These tasks are further defined in Section 11, Description of Work Elements.

- **Fiscal Years** - the Federal Government operates financially on a fiscal year basis - beginning on 1 October and ending on 30 September.

- **Resources** - resources are as follows:

Resource	Listed in Table
Corps technical elements hired labor	Labor
Work performed by Local Sponsor	Local Sponsor
Work performed through contract	AE
Construction Contract	Contract
Other Federal agency work	OA
Miscellaneous expenses (e.g., Transport)	Non Labor

- **Charge Type -** Corps hired labor is divided into direct, indirect, and overhead charges. Direct charges are derived from rate of pay, leave, and benefits for staff assigned to a task. Indirect and overhead charges are Corps support costs, e.g. building rent and services not specific to the project.

Table 2
Excel Cost Estimate Insert

Section 8 - Milestone and Project Schedule

The Project Schedule is presented in the following Figure 2. This schedule has been developed to fully investigate all potential alternatives, to identify a recommended plan (or plans) as quickly as possible, and to complete the necessary coordination of the environmental impacts of the plan(s) with all the Federal, State, and local agencies. This schedule also extends the project through construction, in order to identify the time required to obtain the real estate necessary to construct the project features. Funds necessary to construct the project will be requested as part of the Corps' fiscal year budgetary process. The actual appropriation made available by Congress for a particular fiscal year, however, may vary and may affect the plan described above.

A General Reevaluation Report (GRR) and Environmental Impact Statement/Report (EIS/R) will be prepared to document this study, and will be used to support the Federal request to Congress for subsequent construction funding.

The following is a list of several critical milestones which have been identified and will be tracked in order to help monitor the successful performance of this project:

Milestone/Action	Schedule
Complete Preliminary Designs for all reaches	17 July 2003
Preliminary Project Cost Estimate	30 July 2003
Complete the Economic Review	10 October 2003
Release 2nd Administrative Draft SEIS/R	14 October 2003
Determine Total Project Cost and B/C	21 October 2003
Public Meeting/Workshop #3	11 November 2003
Receive FY04 Appropriation	20 November 2003
Initiate Value Engineering Study	20 November 2003
Award 1st Geotechnical Exploration Contract	31 December 2003
Hold In-Progress Review Conference w/ SPD	31 December 2003
Initiate Public Review of Draft EIS/R	31 March 2004
Public Meeting During Review of Draft EIS/R	20 April 2004
Award 2nd Geotechnical Exploration Contract	23 April 2004

Page intentionally left blank
(Insert Project Schedule)

Section 9 - Description of Work Elements

The work elements described within this Section focus on those being performed during the balance of FY2003 and for the entirety of FY2004. Each work element highlights specific milestones related to that element and the budget available for that element. The budgetary amount cited reflects the anticipated FY work allowance, including any pending reprogramming actions, and is reflected in PROMIS. Actual funding will be made available quarterly in CEFMS.

Information includes the specific technical element within the San Francisco District assigned to perform the task, estimated labor costs, contract costs, other agency costs (e.g., NRCS, FWS, EPA), miscellaneous costs (printing and mailing), costs for in-kind work done by the Sponsors, and total cost for each work element. Not all tasks are detailed in this PMP, as they will be developed at later dates during the performance of the work.

In-Kind Services – Work products provided by the project sponsor as in-kind services must be completed in accordance with the COE's Quality Management Procedures (described in CESPN OM 1110-1-12) in order to assure the production of that work product is of a high quality. Specifically, these work products need to undergo a similar peer review and QC/QA review process as required for work products prepared by the COE (Section 6, Quality Control/Quality Assurance). Each submittal must have a COE-approved Quality Control Plan on file, which identifies the Quality Control methodology.

There will be a COE Team Member assigned from each technical discipline to review/help develop the scopes of work that the sponsors (and their consultants) prepare so that the work is sufficient for COE purposes. Scopes of work will be reviewed by a Contracting Officer's Representative for format and consistency, whenever possible. This will also help ensure that in-kind service credit will be granted for the work performed.

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Project Management (CESPN-PM-C)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- The Project Manager will also be responsible to direct, oversee, and ensure that the study is on schedule and within budget by performing the following:

    - Primary point of contact with the customer.
    - Manage overall project execution, including funds, data, commitments, schedule, cost, and quality.
    - Develop and manage all work using a Project Management Plan (PMP), Scope of Services, PROMIS, NAS, and CEFMS.
    - Ensure Quality Control (QC) plans are developed and incorporated into the Project Management Plan.
    - Provide project schedule, cost status, and issues to the PRB, with corrective action plans for potential slippage or cost over-runs.
    - Lead the study/project team.
    - Be responsible/accountable for assigned product(s) through coordination of team efforts.

        - Schedule: Duration of Fiscal Year.

        - Budget: CESPN-PM-C $35,000

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Program Management (CESPN-PM-B)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- The Program Management Branch will be responsible to prepare monthly Funds Management Reports and other budget documentation for use by the Project Manager and the non-Federal Sponsor. Schedule and funding changes will be updated in PROMIS as necessary, and monthly reports made available to Section/Branch Chiefs for load leveling purposes.
  - Schedule: Duration of Fiscal Year.
  - Budget: CESPN-PM-B $7,000

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Environmental Planning Section (CESPN-ET-PP)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- The Llagas Creek Project will require the preparation of a joint NEPA/CEQA document. The preparation of this EIS/R was issued as a Work Order contract to Tetra Tech, Inc., and the Environmental Planning Section will continue to be responsible to oversee this work and ensure it maintains schedule and quality performance.

- The U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) has been consulted as anadromous fish are present in the project area. The Corps will coordinate with the Services plans for habitat restoration and obtain approval of these plans. The Corps will submit a biological assessment (BA) to FWS and NMFS, describing all the beneficial and adverse effects on listed species in the project area.

- The third Public Meeting/Workshop will be held in November, 2004, to present the progress of the study and to solicit public comments. The status of the Environmental assessment will be presented at this public meeting. Another public meeting will occur during the release of the draft EIS/R for public review and comments received will be incorporated into the assessment.

    - Schedule:
        - Release of 2nd Admin Draft EIS/R – 14 October 2003
        - Public Meeting/Workshop (#3) - 11 November 2003
        - Release of draft EIS/R – 31 March 2004
        - Public Meeting during review of dEIS/R – 20 April 2004

    - Budget: CESPN-ET-PP $25, 000

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Plan Formulation (CESPN-ET-PF)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- Plan Formulation will be tasked to organize and hold an In-Progress Review (IPR) Conference with representatives from the COE's Division and Headquarters, where the preliminary hydraulic and civil designs, the project economics, and the Total Project Cost (TPC) estimate will be presented.

- A public workshop will also be arranged (November 2003) to coincide with the completion of the preliminary project designs and the preparation of a preliminary construction cost estimate. Plan Formulation will work with the Santa Clara Valley Water District to organize and facilitate this workshop.

- Plan Formulation will also be tasked with the preparation of the General Reevaluation Report (GRR), which will act as the Decision Document necessary for Congress to initiate funding for the project's construction. The work required to prepare the draft GRR will include assembling pertinent data, and writing, editing, typing, drafting, reviewing, revising, reproducing, and distributing the draft GRR and related technical documents for review. Finalizing these documents will include answering comments, attending review meetings, and revising the report based on the results of the QC/QA review and public comment process. Tasks also include all work items necessary to support the report approval at the South Pacific Division and HQUSACE.

    - Schedule:
        - Public Meeting #3 – 11 November 2003
        - Hold In-Progress Review Conference - 31 December 2003

    - Budget: CESPN-ET-PF $10,000

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Geology and Soils Design (CESPN-ET-EG)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- Conduct field investigations of existing and proposed project improvement locations along the Llagas Creek[1]. Investigations include explorations using borings, and analysis of explorations will be made by a certified soils laboratory. This task includes negotiating with and administration of Work Order contract to a qualified IDIQ Drilling Contractor. Elevations representing probable failure (PFP) and probable non-failure (PNP) will be determined along all existing and proposed levees.

- Prepare design analysis for modification of existing levees and design of new levees and/or floodwalls, assess side slope stability along proposed channel enlargement reaches, identify borrow and disposal areas, conduct explorations for foundation conditions, and investigate bridge replacements. Prepare narrative report suitable for incorporation into the GRR.

    - Schedule:
        - Issue 1st Geotech Contract – 31 December 2003
        - Issue 2nd Geotech Contract – 23 April 2004
        - Complete Field Investigations – September 2004

    - Budget:

CESPN-ET-EG	$165,000
Geotech Contract	$454,300

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[1] Dependent upon receipt of sufficient FY04 Appropriation.

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Specifications & Cost Engineering (CESPN-ET-ES)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- A preliminary cost estimate (MCACES) for constructing the recommended features in all reaches has been completed. The cost estimate includes an estimate of the project contingencies, escalation of the construction cost to midpoint of construction, construction management costs, and interest during construction. This cost estimate will be reviewed, reach-by-reach, with the SCVWD to ensure that the estimate accurately reflects the work to be done by both the COE and the SCVWD. Any changes that result from this review will be incorporated, and a MCACES performed to establish a revised cost estimate.
    - Schedule:
        - Preliminary Cost Estimate available – 12 August 2003
        - Review Cost Estimate with SCVWD – 26 August 2003
        - Revise MCASES Cost Estimate – 12 September 2003
        - Complete Value Engineering Study – 31 December 2003
    - Budget:
        - CESPN-ET-ES $55,000

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Water Resources (CESPN-ET-EW)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- Preliminary hydraulic designs have been prepared for the channel modifications. If additional hydraulic modifications are required during the final design phase, Water Resources will need to re-evaluate that modification to ensure that the required level of flood protection is provided.

- With- and without-project flood plains need to be generated in order to determine fold damages (project benefits) in support of the Economic Review. The special extent of the 100-, 50-, 25-, 10-, and 5-year events are to be calculated and provided in a form compatible to the economic database (FDA Flood Damage Assessment (FDA) Program).

- A Scope of Work for Phase 2 of the Sediment Assessment has been prepared to further investigate the sediment transport regime within the project. Sediment transport issues will be addressed[2], including the collection of sediment data, HEC-RAS model runs, and stability analyses. If it is determined that some of this work is better performed under contract, Water Resources shall prepare a Services Work Order and negotiate/oversee the contract.

    - Schedule:
        - Provide with- and with-out project flood plains - 15 October 2003

    - Budget:

CESPN-ET-EW	$ 25,000
Phase 2 Sediment Assessment	
Labor	$ 112,000
Field Data Collection	$ 50,000

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[2] Dependent upon receipt of sufficient FY04 Appropriation.

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Civil Design (CESPN-ET-ED)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- Preliminary designs have been completed for all reaches, based on the new hydraulic designs and the NRCS original concepts developed to pass the required flows. As the real estate requirements are determined to implement these designs (necessary vs. available right-of-way, construction access, and maintenance plans), Civil may have to adjust the preliminary alignment/cross-section to accommodate necessary any changes to the design.

- Detailed structural designs of the project features, including any utility relocations within each reach will be required. If additional surveys are required to locate these utilities[3], Civil shall prepare a SOW, negotiate a Service Order contract, and oversee the performance of the work. If it is determined that this detailed design work should be performed under contract, Civil shall prepare a SOW, negotiate a Service Order contract, and oversee the performance of the work.

- A public workshop will be arranged (November 2003) to coincide with the completion of the preliminary project designs and the preparation of a preliminary construction cost estimate. Civil will participate in this workshop and offer explanations of the feature designs.

    - Schedule:
        - Public Workshop - 11 November 2003
        - Determine Utility Locations – 11 February 2004
        - Initiate Detailed Design Effort – 5 May 2004

    - Budget:
        - CESPN-ET-ED $ 45,000

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[3] Dependent upon receipt of sufficient FY04 Appropriation.

Scope of Study

Project/Study: Pajaro River **Phase:** GRR

Element: Economics (CESPN-ET-PC)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- The initial inventory of affected properties has been developed for the 500-year flood plain. What remains, once lesser flood levels are provided from Water Resources, is to determine the flood damage reduction benefits accrued from the with-project condition. A risk and uncertainty analysis will also be performed to help quantify uncertainties in the analyses, and a probability distribution will be developed for expected benefits associated with the selected plan. Once completed, a Benefit/Cost Ratio for the project will be determined. An economic appendix will also be provided for inclusion in the GRR.
    - Schedule:
        - Flood levels provided by Water Resources – 15 October 2003
        - Complete Flood Damage Reduction Runs – 28 October 2003
        - Determine Project NED Benefits – 20 October 2003
        - Project B/C Ratio – 31 October 2003
        - Prepare Economic Appendix for GRR – 12 December 2003
    - Budget:
        - CESPN-ET-EC $ 10,000

Scope of Study

Project/Study: Pajaro River **Phase:** GRR

Element: Cost Engineering (CESPN-ET-ES)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- An initial MCACES cost estimate has been prepared, based on the preliminary alignment and feature configuration for each project reach. Refinement of this cost estimate will be necessary as a result of Sponsor input, identified mitigation requirements, and further detailed design of the project.

    - Schedule:
        - Preliminary Cost Estimates available – 12 August 2003
        - Revised Preliminary Cost Estimate – 12 September 2003

    - Budget:
        - CESPN-ET-ES $10,000

Scope of Study

Project/Study: Llagas Creek **Phase:** Design

Element: Real Estate (CESPK-RE)

The following is a description of the required tasks and a schedule for delivery of those tasks. Allocated budget amounts are also shown.

- The RE Division will work with the SCVWD to obtain an Authorization for Entry for the planned geotechnical investigations. Locations for the boreholes will be indicated on current maps of the project site, and new or existing ROW determined.

- The Corps' Real Estate Division will prepare Real Estate maps which depict the proposed project features and alignment, the surrounding properties affected by the project and their parcel numbers, and easements which include rights-of-way, construction easements, proposed mitigation area, and any flowage easements).

- The Real Estate maps will be provided to the COE's Real Estate Assessor who will perform a Gross Appraisal of the affected properties in order to determine the fair market value of those properties. A summary of the Real Estate actions and findings will be prepared as an Appendix to the GRR.

  - Schedule:
    - Prepare Real Estate Maps – 17 September 2003
    - Complete the Gross Appraisal – 17 October 2003
    - Ensure access for the Geotechnial work – 31 December 2003

  - Budget:

CESPN-RE	$ 15,000
CESPK (Appraiser)	$ 40,000

APPENDICES

Roster of the Project Delivery Team

Corps of Engineers		
Project Manager	David Patterson	(415) 977-8707
Civil Design	Ricardo Galdamez	(415) 977-8572
Environmental Review	Chris Eng	(415) 977-8542
Hydrology and Hydraulics	Terry Marks	(415) 977-8564
Geotechnical	Paul Hecht	(415) 977-8674
Economics	Kevin Knight	(415) 977-8597
Office of Counsel	Graig Juckniess	(415) 977-8647
Office of Real Estate	Susan Miller Scott Hicks	(415) 977-8708 (415) 977-8051
Construction Review	Suzanne Suskind	(415) 331-0404
Santa Clara Valley Water District		
Watershed Director	Marc Klemencic	(408) 265-2607 ext 2084
Project Manager	Bal Ganjoo	(408) 265-2607 ext 3117
Environmental Review	Bill Smith	(408) 265-2607 ext 2853
Design	Gordon Lau	(408) 265-2607 ext 2686
Real Estate	Deanna Forsythe	(408) 265-2607 ext 2293
Natural Resources Conservation Service		
Watershed Planning Services	Walter Sykes	(530) 792-5672

APPENDIX I

Standard Operating Procedure
For
Quality Control of District Products

The following operating procedure for independent technical review of decision and implementation documents will be followed unless specific exception is granted in the Quality Control Plan (QCP):

1. Technical Director and Review Team Leader are assigned.

2. QCP is prepared. The QCP will be incorporated into Project Study Plans or Project Management Plans, where applicable.

3. Initial Review Strategy Session is held to review draft QCP. QCP is submitted to Chief ETS Division.

4. Functional Chief with lead responsibility for the project issues review directive to the Review Team; i.e., a memorandum transmitting the approved QCP to the Review Team for their implementation.

5. Study/Design Team member and the ITR Team counterpart coordinate, schedule, and conduct in-process reviews and these activities in accordance with the QCP.

6. Review team holds organizational meeting and prepares review plan (if required); i.e., a memorandum of the meeting identifying any additional specifics not covered in the QCP.

7. Study/Design Team member requests reviews by Review Team counterpart as products are completed in accordance with the QCP and Review Plan, where applicable.

8. Technical reviews are conducted and documented on checklists and in reviewer's memoranda of review. This may be a single review or an iterative process.

9. Review Team Leader reviews checklist and memoranda for disagreements on technical issues and coordinates with the appropriate technical function supervisor for resolution if disagreements are found.

10. Review Team Leader reviews checklist and memorandum of review for policy issues and coordinates with appropriate Function Chief for possible referral to higher headquarters. Policy issues regarding Project Cost Sharing Agreements (MOA's, PCA's, PED Agreements) are the responsibility of the Deputy District Engineer for Project Management.

11. Review Team participates in in-progress reviews, technical review conferences, and Milestone Conferences and documents conclusions reached at meetings in review team file.

APPENDIX II

12. Project Manager along with the Study/Design Team members review the completed documents.

13. Study/Design Team responds to Review Team assessment by memorandum to the Review Team Leader.

14. Review Team considers responses to review comments and identifies any remaining disagreements requiring resolution by appropriate technical function supervisor.

15. Review Team prepares lessons learned report at conclusion of review.

16. Review Team is dissolved and records are transferred to project document files.

17. District Commander and responsible functional chiefs certify quality control/independent technical review.

Independent Technical Review Team Members
Statement of Qualifications

(The Independent Technical Review Team (ITR) will be selected prior to the submission of the draft P&S. Members will be identified according to their expertise and availability).

APPENDIX III

Quality Control/Quality Assurance Review
Documentation Requirements

Milestone	Documents
1. Kick Off Meeting	Meeting minutes/memorandum
2. Independent Technical Review	Documentation of review Suggested format: - Brief description of scope - Review comments - Action required
3. Issue Resolution Conference Meeting w/Proj Team	Meeting minutes Documentation of Resolution Suggested format: - Brief statement of issues - Resolution
4. Formal Project Team Response	Documentation of response Suggested Format: - Brief statement of issues/comments - Action taken
5. Final QCR Report and Certification	Includes all documentation stated above and review team members certification. BCOE certification by Con-Ops
6. SPN Certification	Certification of quality-control review by the Chief, Engineering Technical Services

APPENDIX IV

QUALITY CONTROL/QUALITY ASSURANCE CERTIFICATION

For the

Llagas Creek Flood Control Project

General Reevaluation Report (GRR)

Approved: ____________________

Herbert H. Cheong
Chief, Engineering Branch
Date: _________

Approved: ____________________

Thomas R. Kendall
Chief, Planning Branch
Date: _________

Approved: ____________________

Suzanne Suskind
Chief, Construction Services Branch
Date: _________

Approved: ____________________

Arijs A. Rakstins
Chief, Engineering & Technical Services Division
Date: _________

"All required Value Engineering action has been completed as appropriate for the phase of the Project".

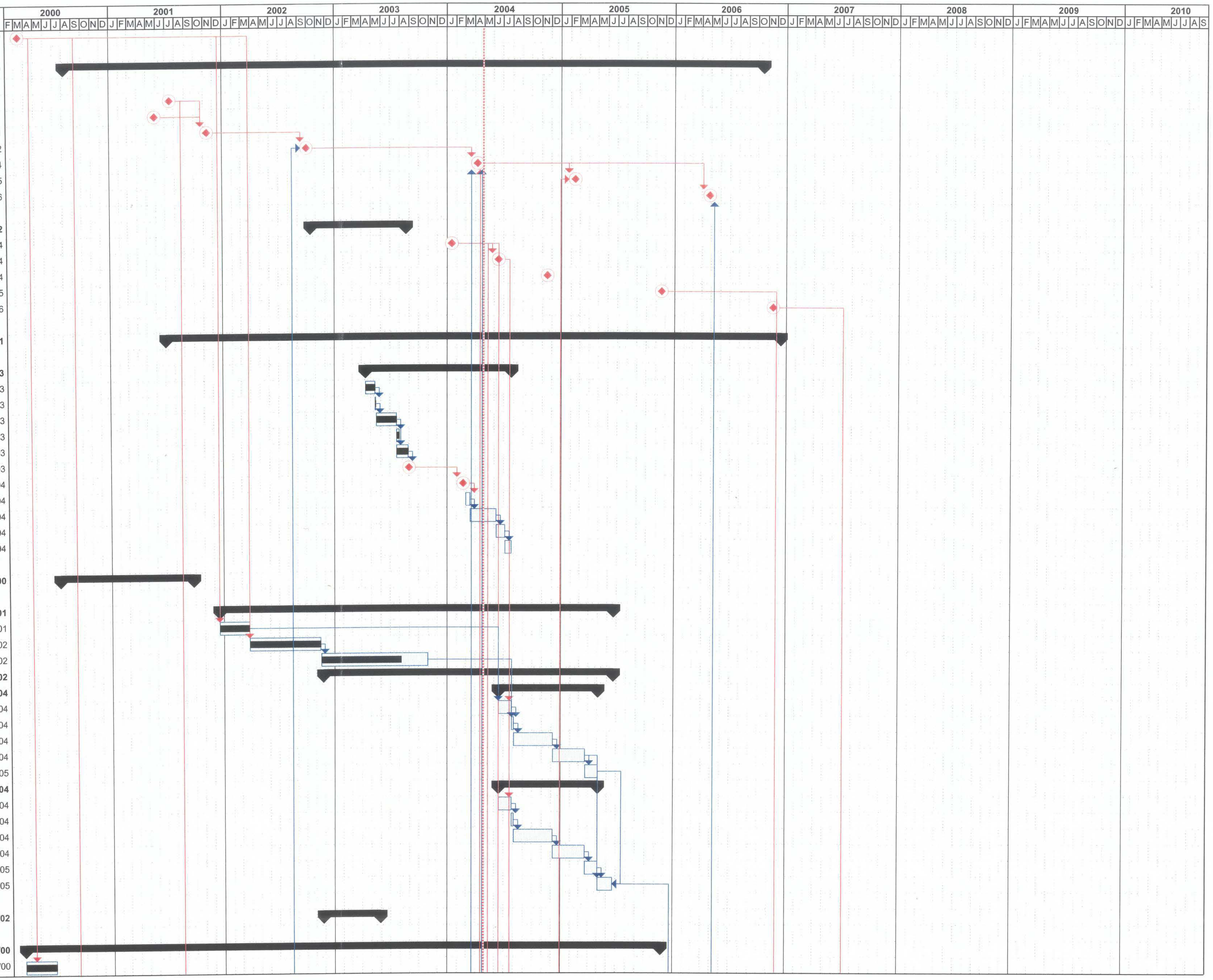
____
David Patterson
Project Manager

APPENDIX V

Llagas Creek Flood Control Project

BASELINE 3/8/01

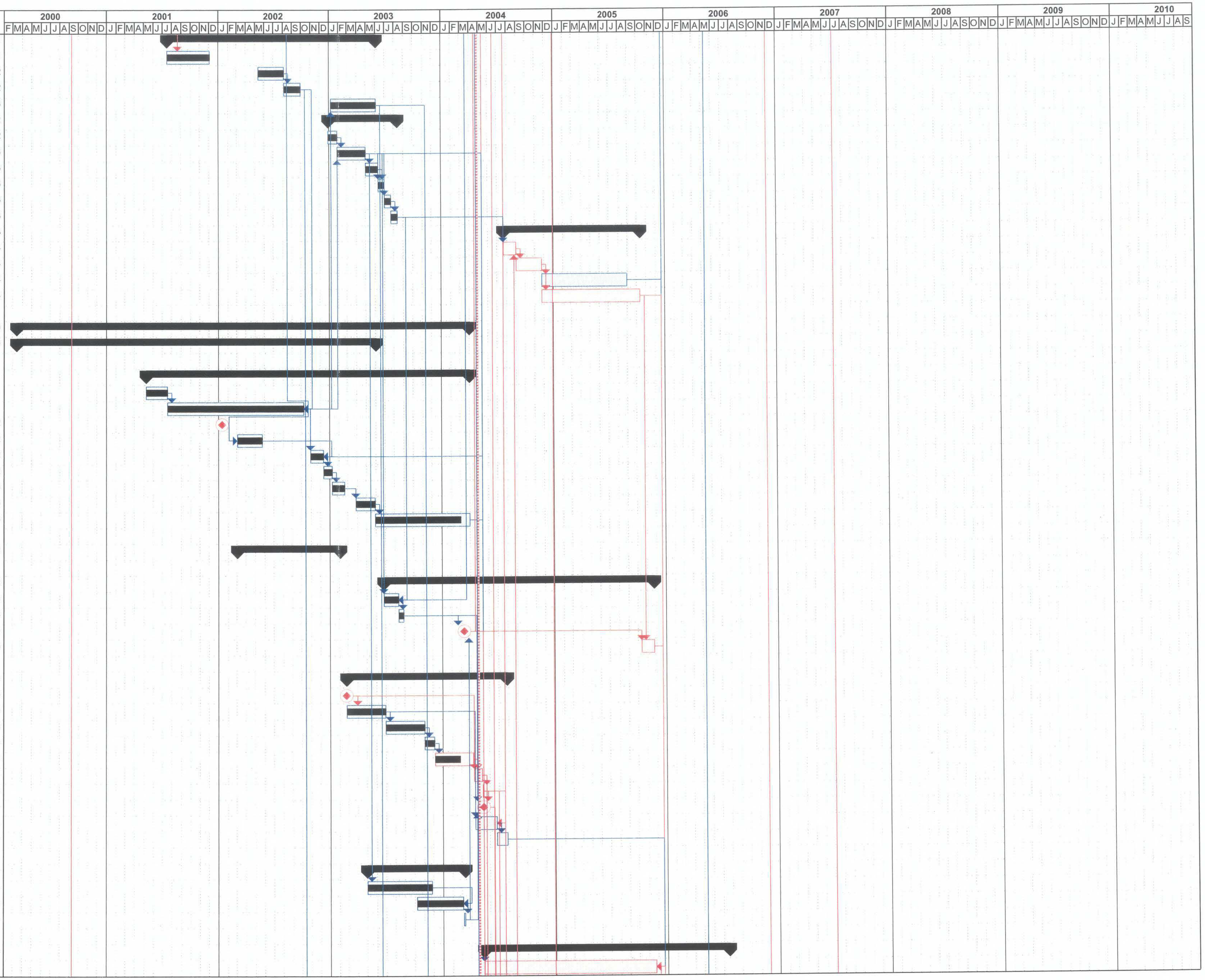
ID	ℹ	Task Name	Duration	Start
1	✓	**Initiate Study**	1 day	Wed 3/15/00
2				
3		**Prepare MOA Between COE and SCVWD**	**1618 days**	**Mon 8/7/00**
14				
15	✓	**Conduct Design Alternatives Workshop**	**0 days**	**Wed 7/18/01**
16	✓	**FWS Conducts Restoration Options Workshop**	0 days	Wed 5/30/01
17	✓	**Public Workshop #1 - Alternatives Being Considered**	0 days	Wed 11/14/01
18	✓	**Public Workshop #2 - Preliminary Designs**	0 days	Thu 10/3/02
19		**Public Workshop #3 - Final Designs**	0 days	Fri 4/9/04
20		**Public Meeting During dEIS/R Review Period**	0 days	Tue 2/15/05
21		**Public Workshop #4 - Construction Schedule**	0 days	Wed 4/26/06
22				
23	✓	**FY03 Federal Funding**	**224 days**	**Tue 10/15/02**
30	✓	**Obtain FY04 Appropriation (assume add)**	0 days	Fri 1/16/04
31	▦	Obtain Reprogrammed Funds from Committee	0 days	Wed 6/16/04
32	▦	**Obtain FY05 Appropriation**	0 days	Fri 11/19/04
33	▦	**Obtain FY06 Appropriation**	0 days	Mon 11/21/05
34	▦	**Obtain FY07 Appropriation**	0 days	Mon 11/20/06
35				
36		**Sponsor Activities**	**1424 days**	**Mon 7/2/01**
93				
94		**Section 215 Application**	**336 days**	**Mon 4/14/03**
95	✓	Sponsor Prepare's draft Application and Agreement	23 days	Mon 4/14/03
96	✓	COE Reviews draft Application	2 days	Thu 5/15/03
97	✓	Sponsor Submitts 215 Request to COE	47 days	Mon 5/19/03
98	✓	SPN Review/Endorsement of Application	7 days	Wed 7/23/03
99	✓	SPD Review of Application	28 days	Wed 7/23/03
100	✓	215 Application Returned to Sponsor	0 days	Tue 9/2/03
101	✓	215 Application Resubmitted to COE	0 days	Tue 2/24/04
102		SPD Review of 215 Application	10 days	Tue 3/2/04
103		Submit 215 Application for HQ Review	60 days	Tue 3/16/04
104		ASA Approval of 215 Application	20 days	Tue 6/8/04
105		Execute 215 Agreement	15 days	Tue 7/6/04
106				
107	✓	**Topographic Survey**	**312 days**	**Mon 7/17/00**
112				
113		**Geotechnical Investigations**	**916 days**	**Tue 12/18/01**
114	✓	Develop SOW for Geotech Investigations	70 days	Tue 12/18/01
115	✓	Develop SOW for Soil Scientist Investigations	169 days	Tue 3/26/02
116		Obtain Site Access Approvals (RE & SCVWD)	250 days	Mon 11/18/02
117		**Geotech Investigations**	**672 days**	**Mon 11/25/02**
118		**1st Geotech Contract (reaches 4, 5, 7a, and 14)**	**230 days**	**Wed 6/16/04**
119		Negotiate/Award Work Order Contract	30 days	Wed 6/16/04
120		Site Reconnaissance	5 days	Wed 7/28/04
121		Field Exploration (drilling)	90 days	Wed 8/4/04
122		Laboratory Testing	75 days	Wed 12/8/04
123		Contractor prepares Drilling Report	30 days	Wed 3/23/05
124		**2nd Geotech Contract (reaches 6, 7b, and 8)**	**230 days**	**Wed 6/16/04**
125	▦	Negotiate/Award Work Order Contract	30 days	Wed 6/16/04
126		Site Reconnaissance	5 days	Wed 7/28/04
127		Field Exploration (drilling)	90 days	Wed 8/4/04
128		Laboratory Testing	75 days	Wed 12/8/04
129		Contractor prepares Drilling Report	30 days	Wed 3/23/05
130		COE Prepares Geotech Appendix	35 days	Wed 5/4/05
131				
132	✓	**Soil Scientist Investigations**	**134 days**	**Mon 11/25/02**
137				
138		**Engineering Analysis & Design**	**1486 days**	**Wed 3/15/00**
139	✓	Review Civil Design	73 days	Wed 3/15/00



Llagas Creek Flood Control Project

BASELINE 3/8/01

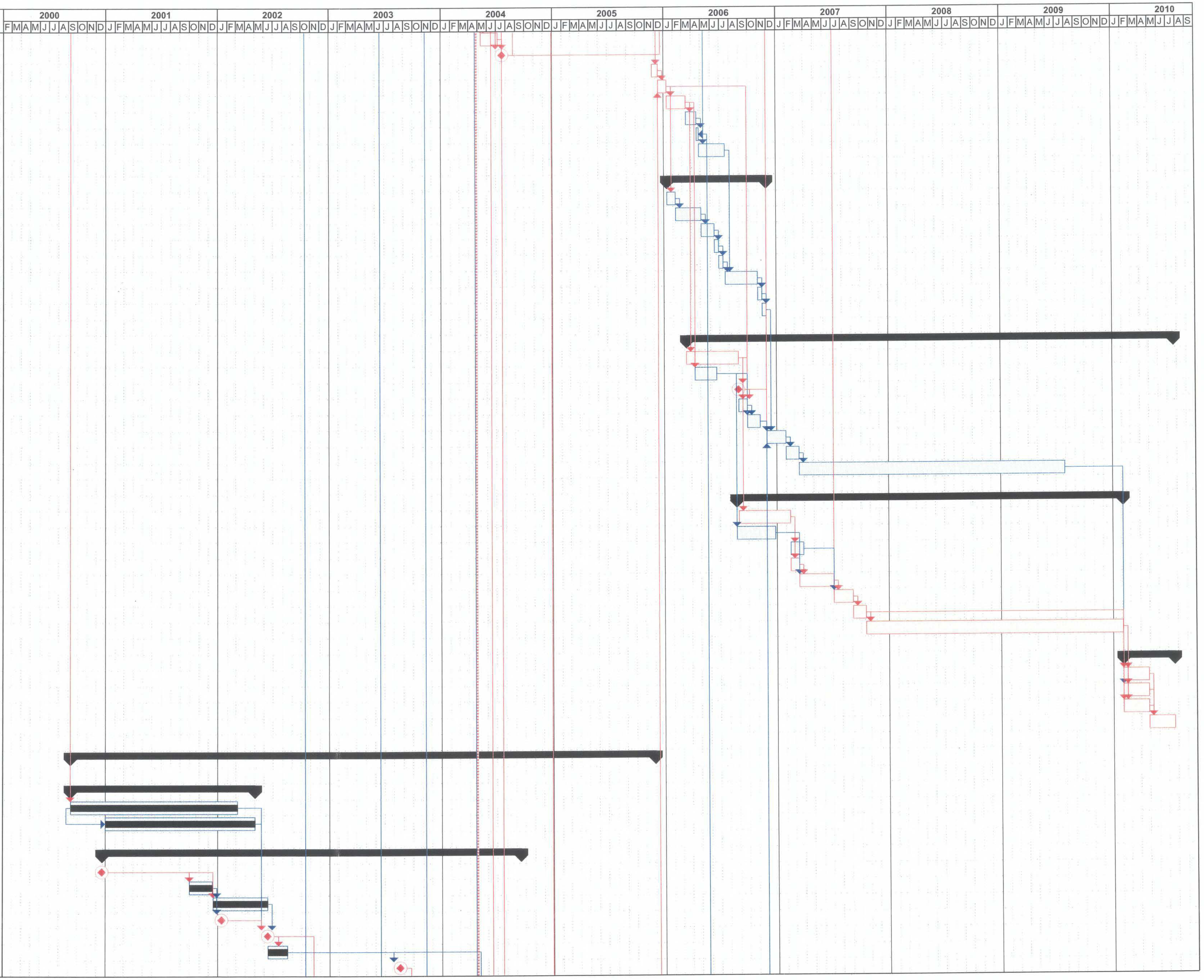
ID	ℹ	Task Name	Duration	Start
140	✓	**New Civil Design Investigations**	**490 days**	**Wed 7/18/01**
141	✓	Create Digital Terrain Model	100 days	Wed 7/18/01
142	✓	Provide Preliminary Maps of Lake Silveria	61 days	Mon 5/13/02
143	✓	Provide Final Maps of Lake Silveria	40 days	Tue 8/6/02
144	✓	Prepare Tree Identification Map	105 days	Wed 1/8/03
145	✓	**Prepare Preliminary Civil Designs for Reaches**	**162 days**	**Mon 12/30/02**
146	✓	Reach 8	22 days	Mon 12/30/02
147	✓	Reach 7a & b	66 days	Wed 1/29/03
148	✓	Reach4	29 days	Thu 5/1/03
149	✓	Reach 5	15 days	Wed 6/11/03
150	✓	Reach 6	15 days	Wed 7/2/03
151	✓	Reach 14	15 days	Wed 7/23/03
152		**Prepare Final Civil Designs for Reaches**	**320 days**	**Thu 7/22/04**
153		Address Utilities	30 days	Thu 7/22/04
154		Detail Cut & Fill Estimates	60 days	Thu 9/2/04
155		Prepare Final Allignments	200 days	Thu 11/25/04
156		Prepare Final Drawings & X-Sections	230 days	Thu 11/25/04
157				
158		**Water Resources Investigations**	**1057 days**	**Wed 3/15/00**
159	✓	**Update Hydrology Model**	**839 days**	**Wed 3/15/00**
167				
168		**Hydraulics Investigations**	**756 days**	**Thu 5/10/01**
169	✓	Preliminary Hydraulic Designs for all Reaches	50 days	Thu 5/10/01
170	✓	Final Hydraulic Designs for all Reaches	320 days	Thu 7/19/01
171	✓	Conduct Review of Plans w/ Enviro. Agencies	0 days	Mon 1/14/02
172	✓	Sedimentation Investigations	60 days	Mon 3/4/02
173	✓	Prepare draft H&H Report	30 days	Thu 10/31/02
174	✓	Review Comments on draft Report	20 days	Thu 12/12/02
175	✓	Prepare Final H&H Report	30 days	Thu 1/9/03
176	✓	ITR of Hydraulic Report (SPL)	45 days	Fri 3/28/03
177		Revise and Finalize Hydraulic Report	220 days	Fri 5/30/03
178				
179	✓	**Special Planning Efforts for Reach 8**	**242 days**	**Mon 3/4/02**
191				
192		**Cost Estimating**	**630 days**	**Thu 6/26/03**
193	✓	Preliminary Cost Estimates for All Reachs	34 days	Thu 6/26/03
194	✓	COE/SCVWD Reviews Cost Assumptions	13 days	Wed 8/13/03
195		Revise Prelim Cost Estimate for all Reaches	0 days	Fri 3/12/04
196		Prepare Final Cost Estimates	30 days	Thu 10/13/05
197				
198		**Economic Review**	**372 days**	**Tue 2/25/03**
199	✓	MIPR funds to SPK Economics	0 days	Tue 2/25/03
200	✓	Inventory of Potential Damages (e.g., structures)	90 days	Tue 2/25/03
201	✓	*Suspend Work*	90 days	Tue 7/1/03
202	✓	Provide Survey data for West Little Llagas	24 days	Tue 11/4/03
203		Develop Floodplain Maps	90 days	Mon 12/8/03
204		Run Flood Damage Program (FDA)	20 days	Mon 4/12/04
205		Determination NED Benefits	3 days	Mon 5/10/04
206		Calculate B/C Ratio for Project as Designed	0 days	Wed 5/12/04
207		Economic Appendix Preparation	50 days	Thu 4/15/04
208		Financial Analysis	25 days	Thu 6/24/04
209				
210		**Real Estate**	**227 days**	**Thu 5/1/03**
211	✓	Prepare Real Estate Maps for all Reaches	150 days	Thu 5/1/03
212	✓	Perform Gross Appraisal	107 days	Thu 10/9/03
213		Generate MCACES Cost Estimate for Real Estate	5 days	Mon 3/8/04
214				
215		**General Reevaluation Report (GRR)**	**570 days**	**Thu 5/13/04**
216		Prepare Draft GRR	400 days	Thu 5/13/04



Llagas Creek Flood Control Project

BASELINE 3/8/01

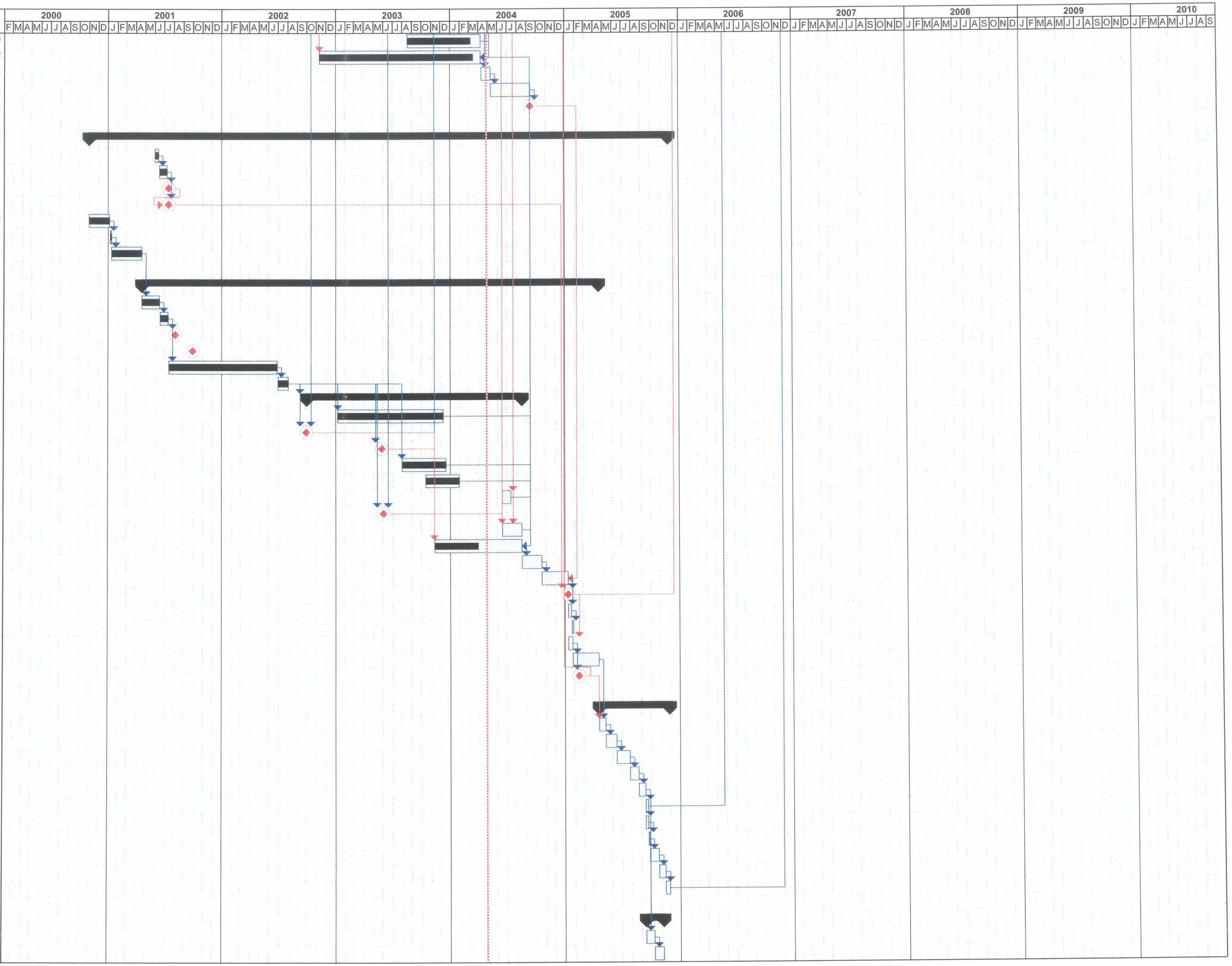
ID	ℹ	Task Name	Duration	Start
217		Value Engineering Study	40 days	Thu 5/13/04
218		In Progress Review Conference (Preliminary Designs)	0 days	Wed 7/21/04
219		QC (ITR) Review of Draft GRR	15 days	Thu 11/24/05
220		Draft GRR & dEIS/R to SPD for Review	20 days	Thu 12/15/05
221		Prepare Final GRR Report	45 days	Thu 1/12/06
222		QC Review of Final GDR	25 days	Thu 3/16/06
223		Final GRR & FEIS/R to HQ for Approval	5 days	Thu 4/20/06
224		HQ Approval of GRR	60 days	Thu 4/27/06
225				
226		**PCA Process**	**230 days**	**Thu 1/12/06**
227		Prepare draft PCA	20 days	Thu 1/12/06
228		Sponsors Review draft PCA	60 days	Thu 2/9/06
229		COE Incorporates/Negotiates Changes to draft PCA	30 days	Thu 5/4/06
230		Sponsors Review Final Draft PCA	10 days	Thu 6/15/06
231		COE Prepares PCA Package for Submittal to HQ	10 days	Thu 6/29/06
232		HQ Review of PCA	75 days	Thu 7/20/06
233		Approved PCA Returned for Sponsors Signature	10 days	Thu 11/2/06
234		PCA Executed by ASA(CW)	10 days	Thu 11/16/06
235				
236		**Prepare P&S (1st Contract)**	**1135 days**	**Thu 3/16/06**
237		Prepare Draft P&S	120 days	Thu 3/16/06
238		Cost Estimating	50 days	Thu 4/13/06
239		Certify Real Estate is Available	0 days	Wed 8/30/06
240		QC/QA Review	20 days	Thu 8/31/06
241		Prepare Final P&S	30 days	Thu 9/28/06
242		Advertise 1st Contract	45 days	Thu 11/30/06
243		Award Contract (Reaches 4, 5, 7a, and 14)	30 days	Thu 2/1/07
244		Construction (Reaches 4, 5, 7a, and 14)	620 days	Thu 3/15/07
245				
246		**Prepare P&S (2nd Contract)**	**900 days**	**Thu 8/24/06**
247		Prepare Draft P&S	120 days	Thu 8/31/06
248		Cost Estimating	90 days	Thu 8/24/06
249		Certify Real Estate is Available	30 days	Thu 2/15/07
250		QC/QA Review	20 days	Thu 2/15/07
251		Prepare Final P&S	80 days	Thu 3/15/07
252		Advertise 2nd Contract	45 days	Thu 7/5/07
253		Award Contract (Reaches 6, 7b, and 8)	30 days	Thu 9/6/07
254		Construction (Reaches 6, 7b and 8)	600 days	Thu 10/18/07
255				
256		**Financial Close-out of Project**	**120 days**	**Thu 2/4/10**
257		Develop O&M Manual	60 days	Thu 2/4/10
258		Prepare As-Built Drawings	60 days	Thu 2/4/10
259		Audit Expenditures	60 days	Thu 2/4/10
260		Project Close-out	60 days	Thu 4/29/10
261				
262		**Environmental Coordination**	**1362 days**	**Sun 9/10/00**
263				
264	✓	**Biological Data Collection**	**430 days**	**Sun 9/10/00**
265	✓	Perform Fish Habitat & ESA Survey	388 days	Sun 9/10/00
266	✓	Perform Vegetation & Wildlife Surveys	350 days	Mon 1/1/01
267				
268		**Coordination Act Report (CAR)**	**973 days**	**Fri 12/22/00**
269	✓	FWS & COE Field Visit	0 days	Fri 12/22/00
270	✓	FWS Performs HEP Baseline Field Work	55 days	Mon 10/1/01
271	✓	FWS Develops HEP	129 days	Mon 12/17/01
272	✓	Conduct Review of Plan w/ Enviro. Agencies	0 days	Mon 1/14/02
273	✓	FWS Provides HEP Results	0 days	Fri 6/14/02
274	✓	COE/SCVWD Comments on HEP Results	46 days	Fri 6/14/02
275	✓	Site Visit w/ FWS to Review Mitigation Plans	0 days	Tue 8/19/03



Llagas Creek Flood Control Project

BASELINE 3/8/01

ID	ℹ	Task Name	Duration	Start
276		COE Responds to Mitigation Recommendations	169 days	Tue 8/19/03
277		FWS Prepares DCAR	370 days	Mon 11/11/02
278		COE/SCVWD Provides comments to DCAR	22 days	Mon 4/12/04
279		FWS Finalizes CAR	90 days	Wed 5/12/04
280		FWS Provides Final CAR	0 days	Tue 9/14/04
281				
282		**CEQA/NEPA (EIR/SEIS)**	**1325 days**	**Wed 11/1/00**
283	✓	Prepare CEQA Justification Memo	7 days	Fri 6/1/01
284	✓	SCVWD Signature needed for Distribution	17 days	Fri 6/15/01
285	✓	State Clearinghouse Notice of Preparation (NOP)	0 days	Mon 7/16/01
286	✓	Distribute NOP to Responsible Agencies	0 days	Mon 7/16/01
287	✓	Prepare SOW of EIS/R Contractor	48 days	Wed 11/1/00
288	✓	SCVWD to Review SOW for CEQA issues	4 days	Mon 1/8/01
289	✓	Contract for EIS/R A&E	70 days	Fri 1/12/01
290				
291		**Prepare draft SEIS/EIR**	**1043 days**	**Fri 4/20/01**
292	✓	Prepare Action Plan and draft BA Outline	41 days	Fri 4/20/01
293	✓	COE/SCVWD Comments on Action Plan	20 days	Mon 6/18/01
294	✓	Issue Notice in Federal register	0 days	Tue 8/7/01
295	✓	COE Provides Perferred Altenative	0 days	Mon 10/1/01
296	✓	Prepare 1st Admin Draft SEIS/R	250 days	Mon 7/16/01
297	✓	COE & SCVWD Review Admin Draft SEIS/R	25 days	Mon 7/1/02
298		**Required Data Input for 2nd Admin Draft EIS/R**	**491 days**	**Mon 9/30/02**
299	✓	Traffic Survey	240 days	Wed 1/8/03
300	✓	Lake Silviera Survey	0 days	Mon 9/30/02
301	✓	Soils Input	0 days	Thu 5/29/03
302	✓	Water Temperature Model Results	100 days	Fri 8/1/03
303	✓	Cultural Resource Report	78 days	Wed 10/15/03
304	📅	HTRW Study (Reaches 7 & 14)	20 days	Wed 6/16/04
305	✓	Tree Inventory	0 days	Tue 6/3/03
306		Tree Survey	45 days	Wed 6/16/04
307		Prepare and Submit 2nd Admin Draft SEIS/R	200 days	Wed 11/12/03
308		COE QA Review of 2nd Admin Draft SEIS/R	45 days	Wed 8/18/04
309		Revise 2nd Admin Draft & Submit Draft BA	60 days	Wed 10/20/04
310		Prepare PN, Mailing List, and Public Notice	0 days	Tue 1/11/05
311		SCVWD Board Approval to Distribute	8 days	Wed 1/12/05
312		Mail Draft SEIS/R and Public Notice	5 days	Mon 1/24/05
313		Publish in Federal Register	10 days	Wed 1/12/05
314		Public Comment Period	60 days	Wed 1/26/05
315		Public Meeting During Public Comment Period	0 days	Tue 2/15/05
316				
317		**Prepare Final SEIS/EIR**	**160 days**	**Wed 4/20/05**
318		Prepare Responses to Comments	15 days	Wed 4/20/05
319		Review Responses to Comments	25 days	Wed 5/11/05
320		Prepare Admin Final SEIS/R	30 days	Wed 6/15/05
321		COE/SCVWD Review of Admin Final SEIS/R	20 days	Wed 7/27/05
322		Revise Admin Draft Final SEIS/R	15 days	Wed 8/24/05
323		Print Final SEIS/R	6 days	Wed 9/14/05
324		Prepare PN and Mailing List	7 days	Wed 9/14/05
325		Mail Final SEIS/R and File with EPA	2 days	Fri 9/23/05
326		Final Public Review	21 days	Tue 9/27/05
327		Prepare Responses to Comments	15 days	Wed 10/26/05
328		Sign ROD	10 days	Wed 11/16/05
329				
330		**Prepare Draft Mitigation & Monitoring Plan**	**40 days**	**Wed 9/14/05**
331		COE/SCVWD Reviews Draft Plans	19 days	Wed 9/14/05
332		Prepare Final Plans	21 days	Tue 10/11/05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